



Army Researchers Team with Sanofi Pasteur to Co-Develop a Zika Virus Vaccine

Collaborative research efforts will accelerate progress towards an effective vaccine

The Walter Reed Army Institute of Research (WRAIR) announces a Cooperative Research and Development Agreement for the development of a Zika vaccine candidate with Sanofi Pasteur, the vaccines division of Sanofi.

WRAIR scientists and collaborators are moving rapidly to develop and test the Zika Purified Inactivated Virus (ZPIV) vaccine candidate because it builds on “a flavivirus vaccine platform WRAIR previously developed which has been proven to be safe, effective, and able to meet regulatory requirements of the U.S. FDA,” said Col. Stephen Thomas, an Army infectious diseases physician, vaccinologist, and the WRAIR Zika program lead.

With this agreement, WRAIR will transfer ZPIV technology to Sanofi to explore advanced and larger scale manufacturing and production. WRAIR and collaborators will share data related to assays designed to measure antibody responses following vaccination with ZPIV, biologic samples generated during the performance of animal studies, and biologic samples generated during the performance of early human trials assessing the safety and immunogenicity of ZPIV.

Preclinical work on the vaccine is being conducted with long-term HIV vaccine collaborators at the Beth Israel Deaconess Medical Center, Harvard Medical School. A preclinical study in mice, published earlier this week in *Nature*, showed that a single dose of ZPIV generated an immune response, which protected the mice against subsequent Zika challenge with a Brazilian strain of the virus. Col. Nelson Michael, the

WRAIR Zika program co-lead, said, “The preclinical work gives us early confidence that development of a protective Zika virus vaccine for humans is feasible.”

Initial ZPIV supplies are being manufactured by the WRAIR’s Pilot Bioproduction Facility located on the Silver Spring, MD campus. The National Institute of Allergy and Infectious Diseases (NIAID) will provide regulatory sponsorship for the initial human trials. WRAIR researchers plan to start human testing at their Clinical Trials Center before the end of the year. NIAID will simultaneously begin additional studies through their Vaccine Trials and Evaluation Units. The Biomedical Advanced Research and Development Authority (BARDA), part of the Department of Health and Human Services, is exploring advanced development options for the vaccine candidate.

Infectious diseases have long been a threat to U.S. Service Members, and the military has extensive expertise and capabilities to develop countermeasures. Col. Thomas reminds us, “The WRAIR has been studying flaviviruses for over 100 years, since Walter Reed and his team discovered that yellow fever is transmitted by mosquitoes.”

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